

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: LUMARK

Report Number: P196048

Luminaire Tested: **NAV-AF-04-D-UNV-RW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196048  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24161)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-04-D-UNV-RW  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 25503.2 lumens  
Efficiency: N/A  
Efficacy: 113.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium - Full Cutoff  
BUG Rating: B4 - U0 - G4

Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

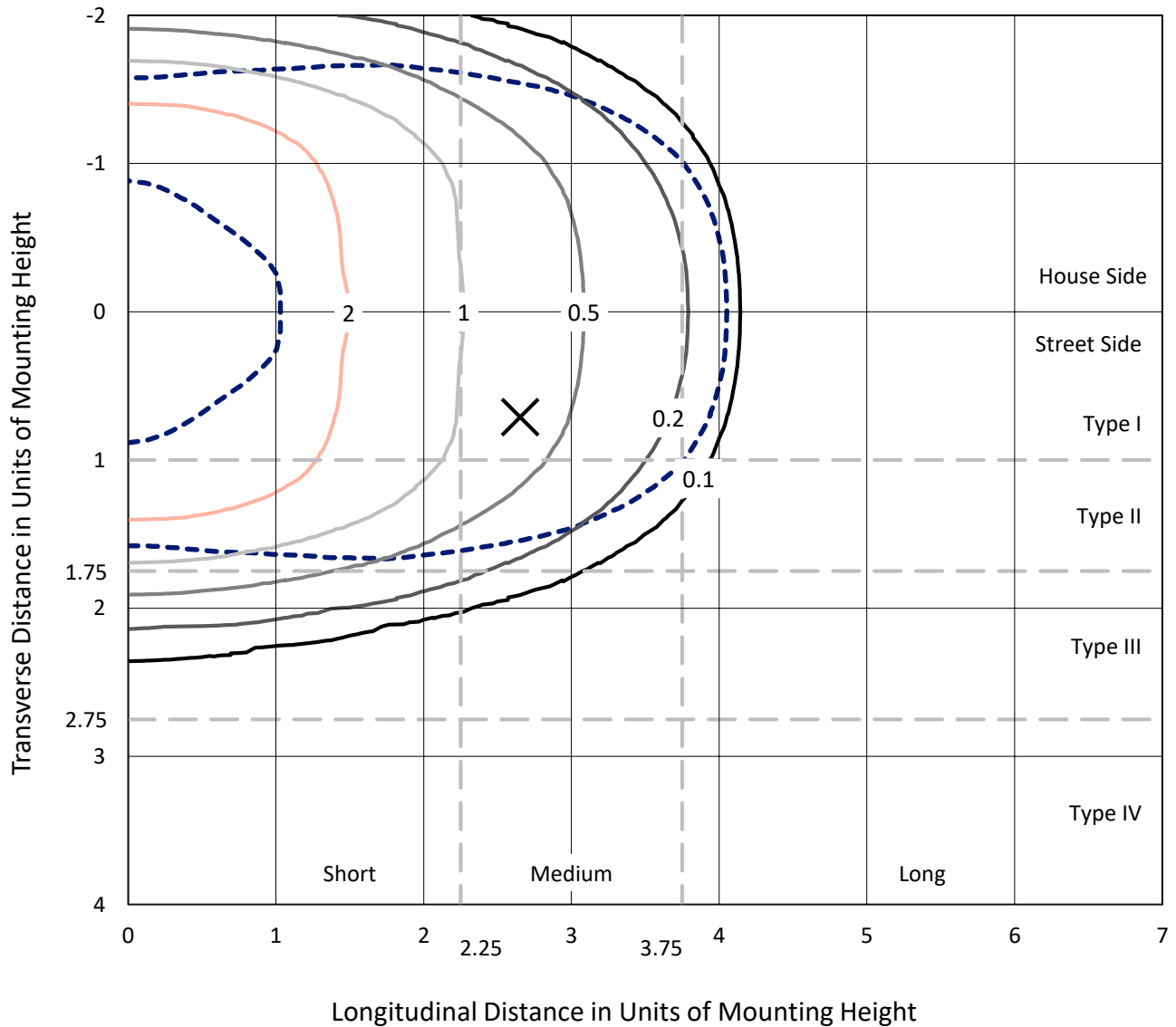


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### Iso-Footcandle Lines of Horizontal Illumination

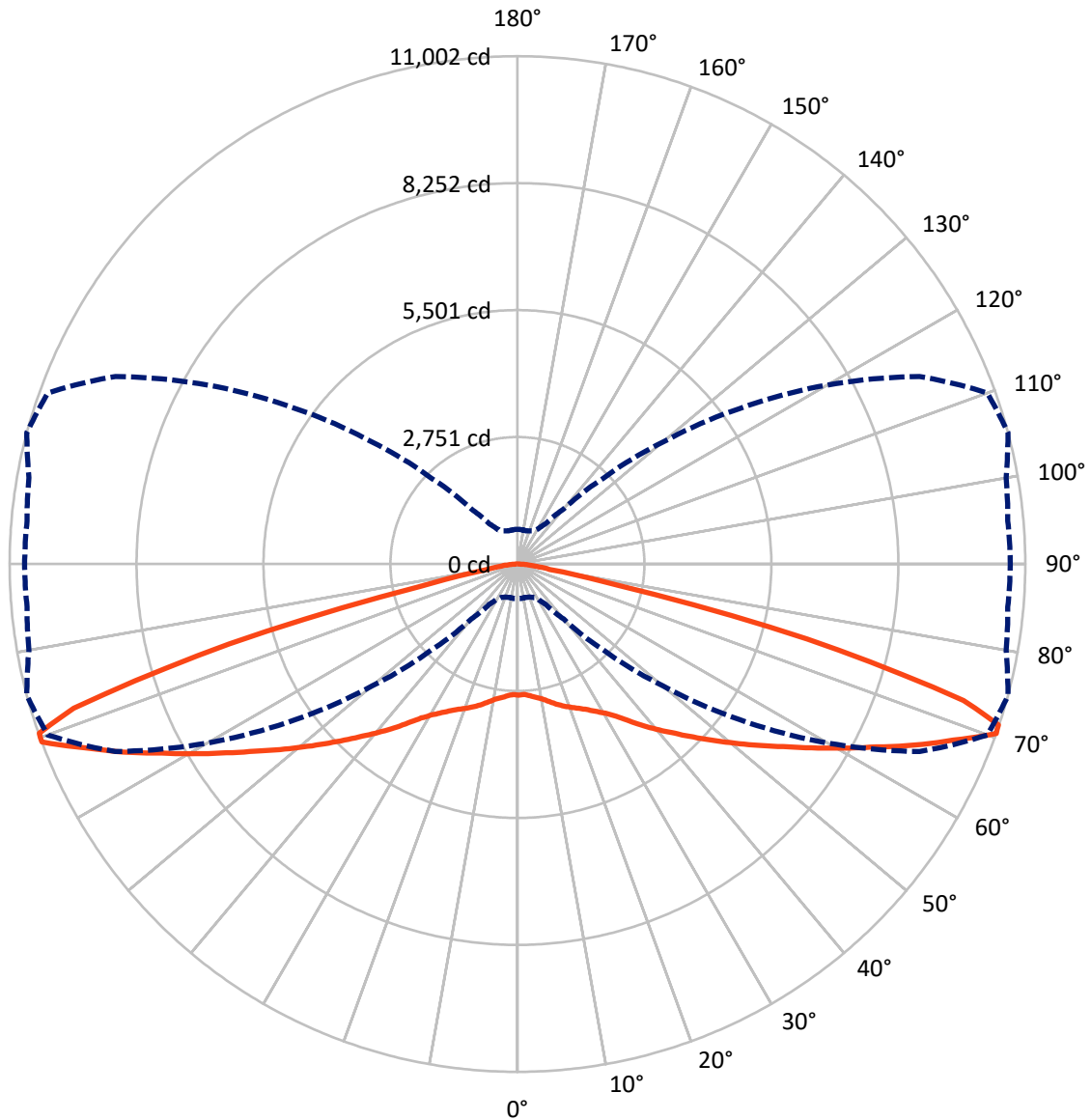
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 fc  
 Type II - Medium - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	12751.6	0.0	12751.6
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	12751.6	0.0	12751.6
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	25503.2	0.0	25503.2
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	272.4	1.1
10°-20°	844.8	3.3
20°-30°	1586.7	6.2
30°-40°	2795.1	11.0
40°-50°	4632.4	18.2
50°-60°	6444.3	25.3
60°-70°	6083.6	23.9
70°-80°	2598.3	10.2
80°-90°	245.5	1.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	25503.2	100.0
0°-180°	25503.2	100.0



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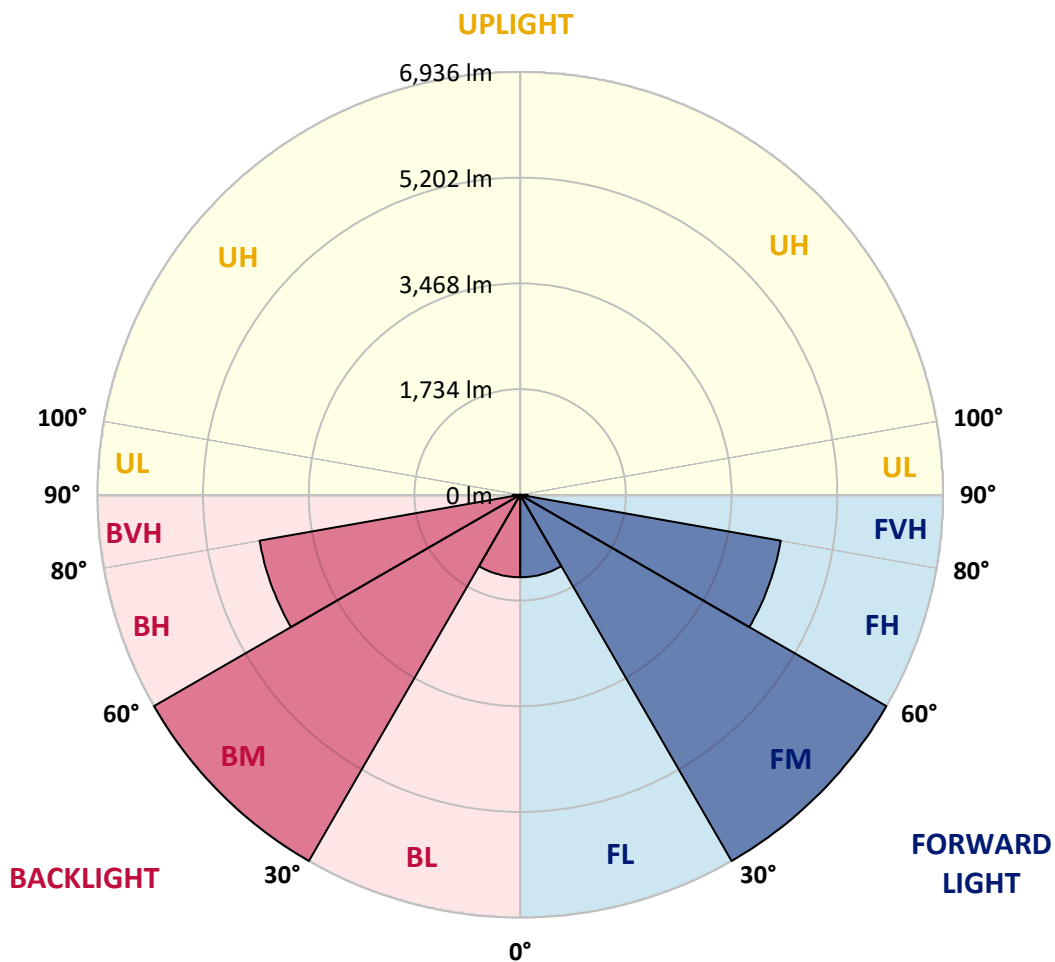
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1352.0	5.3			
FM	(30°-60°)	6935.9	27.2			
FH	(60°-80°)	4340.9	17.0			G2/5000
FVH	(80°-90°)	122.8	0.5			G2/225
BL	(0°-30°)	1352.0	5.3	B3/2500		
BM	(30°-60°)	6935.9	27.2	B4/8500		
BH	(60°-80°)	4340.9	17.0	B4/5000		G4/5000
BVH	(80°-90°)	122.8	0.5			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B4-U0-G4**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2840.0	2840.0	2840.0	2840.0	2840.0	2840.0	2840.0	2840.0	2840.0	2840.0	2840.0
2.5°	2857.6	2856.0	2857.6	2852.8	2854.4	2852.8	2852.8	2846.5	2846.5	2843.2	2838.4
5°	2825.6	2828.9	2828.9	2828.9	2833.7	2833.7	2840.0	2841.7	2846.5	2851.2	2854.4
7.5°	2772.9	2774.5	2779.3	2782.5	2792.0	2804.8	2817.6	2832.0	2844.8	2860.8	2878.4
10°	2728.1	2731.4	2739.4	2747.3	2764.9	2780.9	2803.3	2825.6	2848.0	2875.2	2902.3
12.5°	2704.2	2709.0	2721.8	2734.6	2761.8	2782.5	2812.8	2848.0	2878.4	2904.0	2934.3
15°	2707.3	2709.0	2726.6	2744.2	2782.5	2811.3	2854.4	2896.0	2932.7	2961.4	2996.6
17.5°	2753.7	2757.0	2774.5	2800.1	2836.8	2873.6	2919.9	2963.1	3012.6	3046.2	3087.8
20°	2844.8	2849.6	2868.8	2896.0	2936.0	2974.2	3022.2	3067.0	3118.2	3158.1	3199.6
22.5°	2963.1	2971.1	2991.8	3025.4	3065.4	3111.7	3161.2	3207.7	3255.5	3295.5	3330.7
25°	3121.3	3130.9	3153.2	3186.8	3226.8	3276.3	3327.5	3375.4	3424.9	3455.3	3484.1
27.5°	3333.9	3349.9	3373.8	3401.0	3436.2	3488.9	3536.9	3576.8	3624.7	3658.3	3677.5
30°	3619.9	3642.3	3661.6	3690.3	3715.9	3771.8	3810.2	3842.1	3878.8	3898.1	3902.9
32.5°	3970.0	3990.7	4010.0	4030.7	4065.8	4117.0	4153.8	4171.4	4190.5	4187.3	4169.8
35°	4364.7	4380.7	4391.9	4428.7	4486.2	4519.7	4546.9	4553.4	4556.5	4523.0	4489.4
37.5°	4780.2	4799.5	4809.0	4866.6	4920.9	4959.3	4972.1	4986.5	4976.9	4920.9	4860.1
40°	5229.3	5250.1	5278.9	5328.4	5392.4	5429.1	5445.2	5443.5	5435.6	5370.0	5271.0
42.5°	5670.4	5696.0	5720.0	5806.3	5859.1	5921.4	5929.3	5927.8	5910.2	5835.1	5720.0
45°	6044.4	6074.8	6124.4	6220.3	6305.0	6380.0	6410.4	6421.7	6404.1	6324.2	6193.0
47.5°	6352.9	6373.7	6436.0	6552.7	6661.4	6771.6	6832.4	6875.6	6873.9	6816.4	6677.3
50°	6563.9	6587.8	6664.5	6795.6	6931.4	7060.9	7180.8	7278.3	7324.6	7283.1	7153.6
52.5°	6624.6	6655.0	6755.7	6912.3	7070.5	7244.7	7423.8	7596.3	7700.2	7725.7	7625.1
55°	6368.9	6402.4	6549.4	6766.8	7027.4	7284.6	7556.3	7802.5	8016.7	8115.8	8075.8
57.5°	5624.1	5648.1	5835.1	6116.3	6488.8	6941.0	7398.2	7848.8	8216.4	8473.7	8518.5
60°	4447.8	4478.2	4682.8	4980.0	5403.5	5975.8	6615.0	7353.4	8074.2	8663.9	8956.4
62.5°	3001.4	3022.2	3218.8	3490.5	3954.0	4505.4	5218.2	6153.2	7180.8	8234.0	9058.6
65°	1575.9	1575.9	1708.5	1898.7	2267.9	2761.8	3492.1	4451.1	5673.7	6989.0	8368.2
67.5°	914.2	912.6	943.0	986.1	1102.7	1302.5	1705.3	2410.1	3567.2	5098.3	6667.8
70°	754.3	749.5	744.8	744.8	762.3	792.7	869.4	1062.8	1555.1	2629.1	4102.6
71°	720.8	717.6	704.8	700.0	708.0	723.9	757.6	847.0	1104.4	1793.2	3063.7
72.5°	680.9	672.9	653.7	645.7	647.3	653.7	663.3	698.5	776.7	1019.7	1746.9
75°	620.1	600.9	576.9	565.8	561.0	559.3	559.3	569.0	586.6	615.3	716.0
77.5°	549.8	522.6	497.1	485.9	477.8	473.1	469.8	463.5	460.3	473.1	509.8
80°	465.0	436.3	415.5	409.2	404.4	394.8	382.0	369.2	361.2	367.5	389.9
82.5°	359.6	330.8	334.0	335.6	327.7	311.7	298.9	284.5	270.1	266.9	278.1
85°	286.1	271.7	262.1	282.8	265.4	246.1	228.5	204.6	171.0	140.7	153.4
87.5°	123.1	124.7	179.0	270.1	236.5	190.2	158.3	127.9	81.5	60.8	62.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2840.0	2840.0	2840.0	2840.0	2840.0	2840.0	2840.0	2840.0
2.5°	2836.8	2836.8	2832.0	2828.9	2828.9	2828.9	2825.6	2827.2
5°	2856.0	2859.2	2862.4	2860.8	2865.6	2870.4	2868.8	2867.2
7.5°	2888.0	2897.6	2907.1	2911.9	2918.4	2924.7	2926.4	2921.5
10°	2919.9	2939.1	2953.5	2966.3	2974.2	2980.7	2985.5	2983.8
12.5°	2959.9	2987.0	3012.6	3038.2	3055.8	3065.4	3075.0	3071.8
15°	3025.4	3055.8	3087.8	3121.3	3148.4	3162.9	3177.3	3174.0
17.5°	3114.9	3142.1	3167.7	3201.2	3234.8	3250.7	3266.8	3265.2
20°	3226.8	3247.6	3262.0	3281.1	3313.1	3330.7	3345.0	3340.2
22.5°	3354.7	3361.0	3362.6	3369.1	3394.6	3415.4	3434.6	3439.4
25°	3493.7	3488.9	3479.4	3474.6	3492.1	3514.4	3538.5	3544.8
27.5°	3666.3	3650.3	3626.4	3607.1	3611.9	3640.8	3667.9	3674.3
30°	3883.6	3846.9	3795.8	3759.0	3752.6	3783.0	3811.7	3821.3
32.5°	4131.4	4081.9	4011.5	3955.5	3931.6	3958.8	3984.4	3998.7
35°	4425.5	4371.1	4286.4	4214.5	4176.1	4193.7	4238.5	4254.5
37.5°	4773.9	4698.7	4604.5	4513.4	4449.4	4452.6	4500.6	4519.7
40°	5159.0	5050.4	4930.5	4817.0	4724.3	4718.0	4761.1	4775.4
42.5°	5560.1	5421.1	5280.5	5131.8	5016.8	4996.0	5051.9	5053.6
45°	5991.7	5812.7	5638.5	5465.9	5346.0	5309.3	5363.6	5370.0
47.5°	6452.0	6228.2	6022.1	5835.1	5705.6	5648.1	5700.8	5710.4
50°	6931.4	6699.7	6460.0	6252.2	6100.4	6030.1	6092.4	6098.8
52.5°	7406.2	7187.2	6949.0	6710.9	6527.1	6447.2	6520.7	6543.1
55°	7884.0	7673.1	7449.3	7211.2	6979.4	6909.1	6989.0	7012.9
57.5°	8381.0	8178.1	7975.1	7735.3	7510.0	7402.9	7489.2	7522.8
60°	8929.2	8750.2	8558.4	8317.1	8094.9	7970.3	8043.8	8082.1
62.5°	9467.8	9431.1	9256.9	9006.0	8724.6	8599.9	8662.3	8689.5
65°	9512.6	10108.7	10100.7	9851.4	9458.2	9248.9	9266.5	9279.3
67.5°	8302.7	9670.8	10545.0	10623.3	10185.4	9857.8	9819.4	9827.4
70°	5878.3	7756.1	9611.6	10829.5	11002.1	10748.0	10664.9	10677.7
71°	4710.0	6655.0	8697.5	10335.7	10989.4	10915.8	10869.5	10903.0
72.5°	3006.2	4903.3	6891.5	8850.9	10105.5	10465.1	10517.9	10538.6
75°	1091.6	2109.6	3570.4	5115.9	6484.0	7425.3	7943.1	7984.6
77.5°	586.6	756.0	1168.3	1745.3	2192.8	2432.5	2461.2	2472.5
80°	431.5	500.2	572.1	653.7	704.8	714.4	696.8	660.1
82.5°	305.2	345.2	374.0	402.7	423.5	405.9	337.3	257.3
85°	177.4	195.0	210.9	225.4	228.5	215.7	142.2	116.7
87.5°	70.3	76.7	75.1	84.7	81.5	75.1	56.0	48.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)